INFORMATION TECHNOLOGY: B.S.

The roles and responsibilities of Information Technology (IT) professionals vary depending on their industry and the firm where they are employed. Tasked with a range of activities, IT professionals engage in all aspects of technology in the workplace. The Information Technology program will prepare students as IT professionals capable of applying their knowledge and skills to analyze complex organizational challenges; propose, implement, customize, and manage technology-supported solutions to address them; and provide users with technical support needed to facilitate their use of such solutions as well. The ever-growing field of IT will provide graduates with a wide range of career options allowing them to join the workforce of the future and hold positions such as computer systems analyst, database administrator/architect, information security analyst, IT business analyst, IT consultant, IT project manager, network administrator/architect, and web/application developer. Similarly, the program will help students learn how to embrace the challenges posed by the future of work, understand industry trends shaped by the rapid advances in technology, and look for new career opportunities for themselves.

In this program, students will acquire competencies in a range of discipline-specific areas including cybersecurity, networking, platform technologies, system paradigms, software fundamentals, web and mobile systems, integrated systems technology, information management, user experience design, and global professional practices. Students will also gain knowledge in mathematical foundations essential for their degree.

The program is designed to allow students to expand their areas of learning with elective courses, helping them advance their knowledge in evolving and emerging technologies and gain expertise in specialty areas aligned with their career paths. The program is designed for students to earn their degree completely online, and students will also have opportunities to take some of their courses in other study modalities such as independent studies and virtual study groups.

The program in information technology is developed based on the Association for Computing Machinery and the IEEE Computer Society's most recent curricular guidelines for IT in baccalaureate programs (IT2017).

The B.S. in Information Technology includes a set of required courses that all students must take, along with **SUNY General Education (http://catalog.sunyempire.edu/undergraduate/earning-undergraduate-degree/gened/)** and **other academic requirements (http://catalog.sunyempire.edu/undergraduate/earning-undergraduate-degree/)**, in order to be eligible to receive a degree.#The required courses can be found under the "Program Details" tab. Students should speak with their mentor to see if any credits earned through **I (https://www.sunyempire.edu/degree-planning-academic-review/prior-learning-assessment/individualized-prior-learning-assessment/)ndividualized Credit for Prior Learning (iCPL) (http://catalog.sunyempire.edu/undergraduate/cpl/icpl/)** might fulfill any of these course requirements.

Program Details

Students pursuing a B.S. program in Information Technology must complete the following courses:

Code	Title	Credits
Lower Level Foundation		
INFS 2010	Introduction to Data Management Tools	4
or CSCI 1015	Introduction to Database Design	
INFT 1005	Introduction to Web Publishing	4
CSCI 2010	Introduction to C++ & OOP	4
or CSCI 2015	Introduction to Object-Oriented Programming: Java	
or CSCI 2020	Introduction to Programming with Python	
CSCI 1020	Introduction to Networks	4
INFT 2025	Introduction to Cybersecurity	4
MATH 1040	Algebra	4
MATH 1065	Statistics	4
MATH 1100	Introduction to Discrete Mathematics	4
Upper Level in Major		
INFT 3050	Systems Analysis & Design	4
INFT 3030	Human-Computer Interaction	4
COMW 3015	Technical Writing	4
INFS 3010	Database Systems	4
INFT 3045	Social, Professional & Ethical Issues in Computing	4
INFT 3035	Project Management	4
or MGIS 4015	Project Management in IT / IS	
INFT 3025	Data Communications & Networks	4
CSCI 3020	Operating Systems	4
INFT 3065	Web Systems Development	4
INFT 4015	Information Assurance	4
or MGIS 4005	Information Security & Policy	
Advanced Elective in the Major		4

Credit Summary
Total Lower Level Foundation - 32
Total Upper Level in Major - 44
SUNY General Education Requirements - 30
Additional Electives - 14
Total Required Credits (minimum 45 advanced level) - 120

Learning Outcomes

- Analyze a problem and apply knowledge of computing and mathematics in order to develop an appropriate solution to the problem.
- Identify and analyze user needs in order to design, implement, and evaluate a computer-based system, process, or program to meet those needs.
- Analyze human computer interactions, including user differences, user experience and collaboration, and user and task analysis.
- Collaborate effectively as part of a team to accomplish a common goal.
- Identify ethical, social and professional issues in the field of IT, and analyze the roles and responsibilities of computing professionals in addressing those issues.
- Communicate effectively with a wide range of audiences in written and oral modes.
- Develop a project baseline plan and understand how to form project teams, identify roles, and assign responsibilities.
- Analyze personal professional development needs and identify opportunities for professional development.